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Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A Sheet 1 of 38 (Figure 1A)



# Figure 1A

181 ZKKFAVAESDC NLAVALNRSY TKAYSRRGAA RFALOKLEEA KKDYERVLEL EPNNFEATNE 1 MTSANKAIEL OLOVKONAEE LODFMRDLEN WEKDIKOKDM ELRRONGVPE ENLPPIRNGN 121 SEEDGIHVDS QKALVLKEKG NKYFKQGKYD EAIDCYTKGM DADPYNPVLP TNRASAYFRL 61 FRKKKKGKAK ESSKKTREEN TKNRIKSYDY EAWAKLDVDR ILDELDKDDS THESLSQESE 301 AIECYTRGIA ADGANALLPA NRAMAYLKIQ KYEEAEKDCT QAILLDGSYS KAFARRGTAR 361 TFLGKLNEAK QDFETVLLLE PGNKQAVTEL SKIKKELIEK GHWDDVFLDS TQRQNVVKPI 241 LRKISOALAS KENSYPKEAD IVIKSTEGER KQIEAQQNKQ QAISEKDRGN GFFKEGKYER 601 FYIEKEKPLL IFEILQRLSE LKRFDMAVMF MSETEKKIAR ALFNHIDKSG LKDSSVEELK 541 VLPPIPANSF QLESDFRQLK SSPDMLYQYL KQIEPSLYPK LFQKNLDPDV FNQIVKILHD 481 SQDVLFPTSD TPRAKVLKIE EVSDTSSLQP QASLKQDVCQ SYSEKMPIEI EQKPAQFATT 421 DNPPHPGSTK PLKKVIIEET GNLIOTIDVP DSTTAAAPEN NPINLANVIA ATGTTSKKNS

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 2 of 38 (Figure 1B)

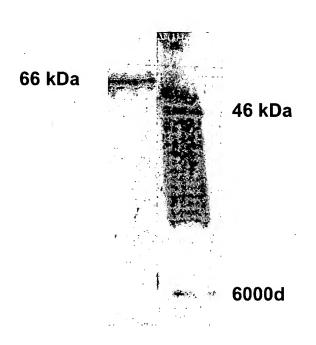


Figure 1B

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A



Figure 2A to Figure 2C

Y Axis Scale: Counts 0 to 20 X Axis Scale: Annexin V 100 to 104

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

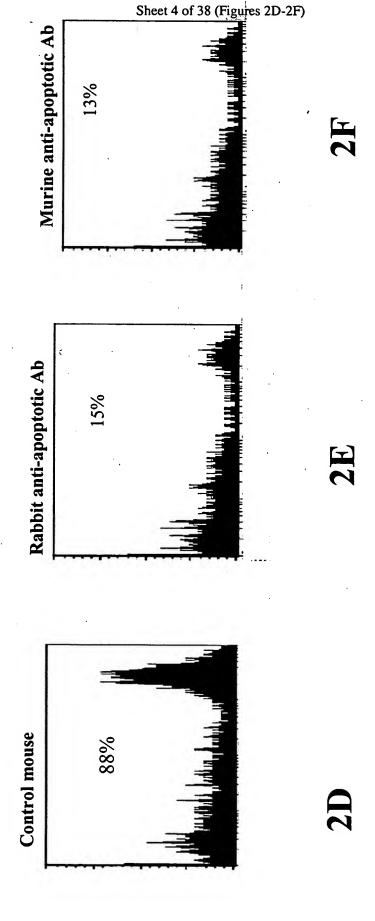


Figure 2D to Figure 2F

Y Axis Scale: Counts 0 to 20 X Axis Scale: Annexin V 100 to 104

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 5 of 38 (Figure 3)

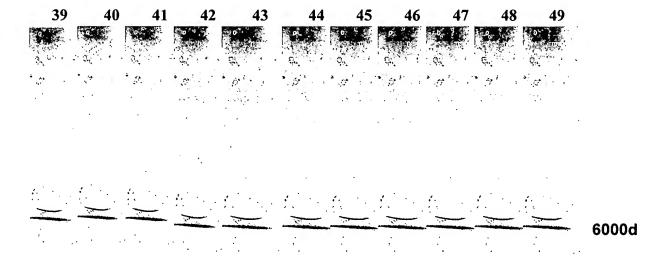


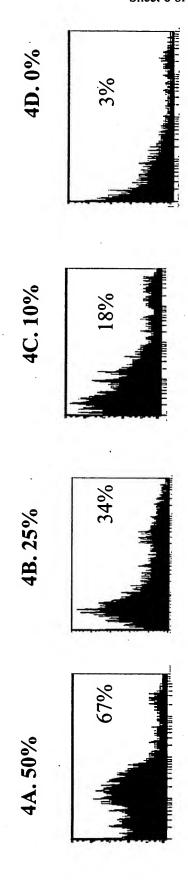
Figure 3

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A Sheet 6 of 38 (Figures 4A-4D)

Figure 4A to 4D Bosc cells + FL14676485



Y axis scale: Counts 0 to 50

X axis scale: Annexin V FITC 100 to 104

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Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 7 of 38 (Figures 4E-4H)

3% 4H. 0% Figure 4E to 4H Bosc cells + GFP 4G. 10% 3% 4% 4F. 25% 4% 4E. 50%

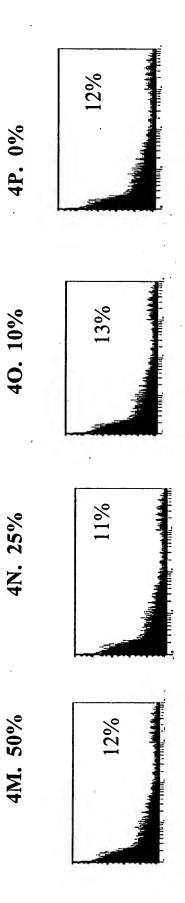
Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

Figure 4I to 4L. 43 + FL14676485



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

Figure 4M to 4P. 43 + GFP



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

10 = Bosc supernatant

6 = Bosc cells + 14676485 transfected= 43 + 14676485 transfected lysate = Bosc cells + 14676485 lysate =43+14767485 supernatant  $=43_{HIV}$  supernatant 8 = Bosc cell lysate 9 = 43 supernatant  $1 = 43_{HIV}$  lysate 7 = 43 lysate supernatant 8 9 10 Figure 5 9 46 kDa

Inventors: Sperber et al.

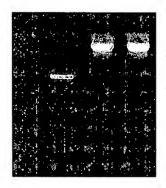
Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 11 of 38 (Figure 6)

Figure 6

#### 2 . 3

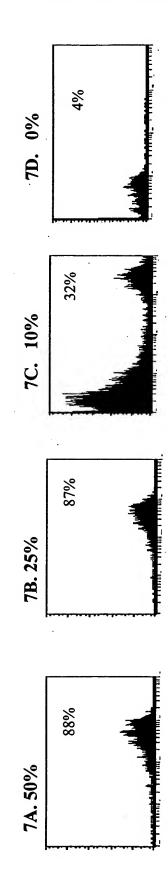


661bp

420bp

- 1. 43
- 2.
- 43<sub>HIV</sub> 43 actin 3.
- 4.  $43_{\text{HIV}}$  actin

Figure 7A to 7D. CD4+ T cells



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

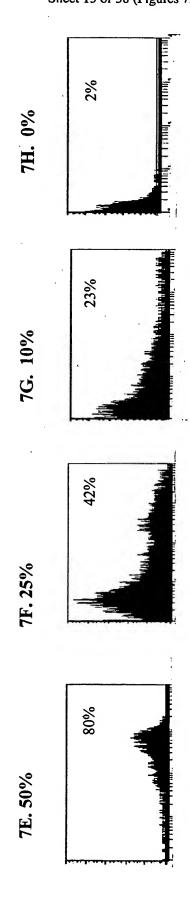
Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 13 of 38 (Figures 7E-7H)

Figure 7E to 7H. CD8+ T cells



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

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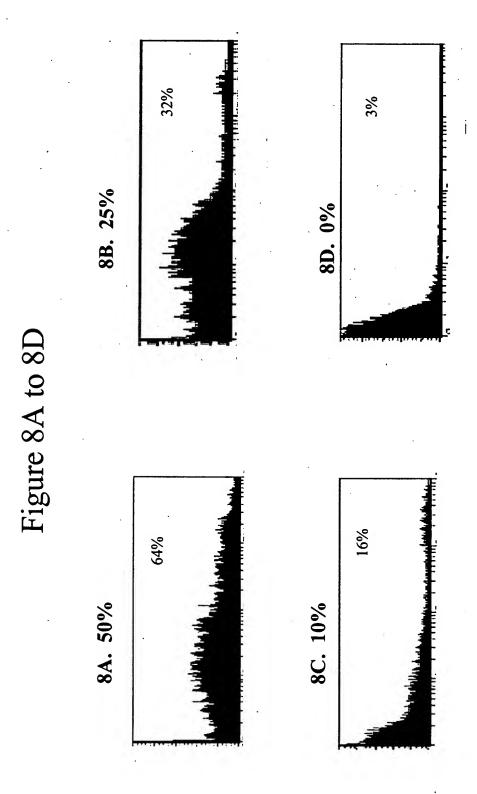
Docket No. 29636/38748A

Sheet 14 of 38 (Figures 7I-7L)

%0 . 19% 48% 7J. 25% %9/ 7I. 50%

Figure 7I to 7L. B cells

Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 10<sup>0</sup> to 10<sup>4</sup>



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 10<sup>0</sup> to 10<sup>4</sup>

Inventors: Sperber et al.

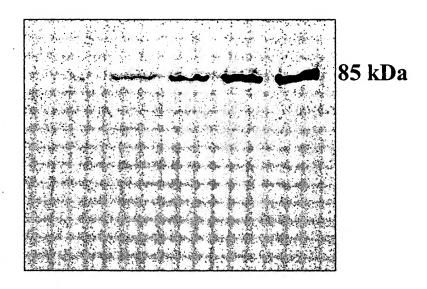
Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 16 of 38 (Figures 9A and 9B)

#### Figure 9A PARP

0% 1% 10% 25% 50%



#### Figure 9B Caspase 3

0% 1% 10% 25% 50%

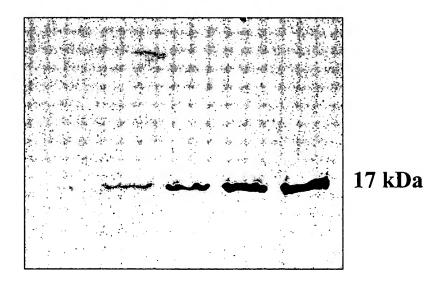


Figure 10A to 10D

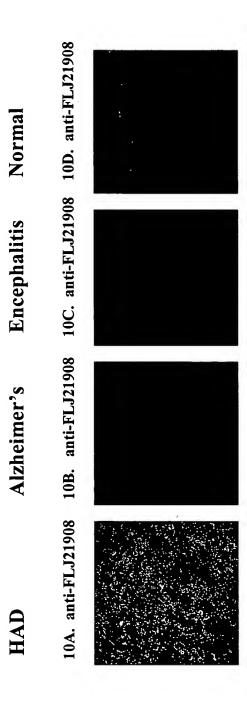
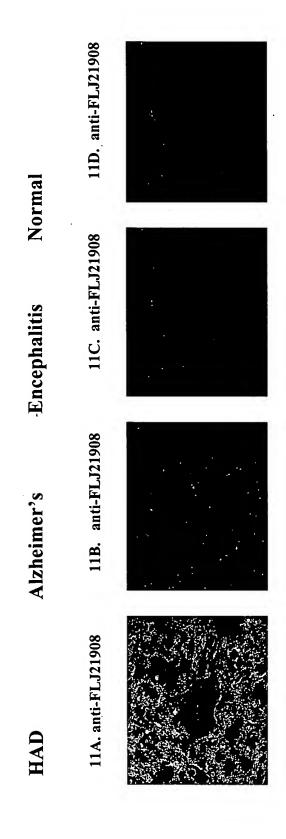
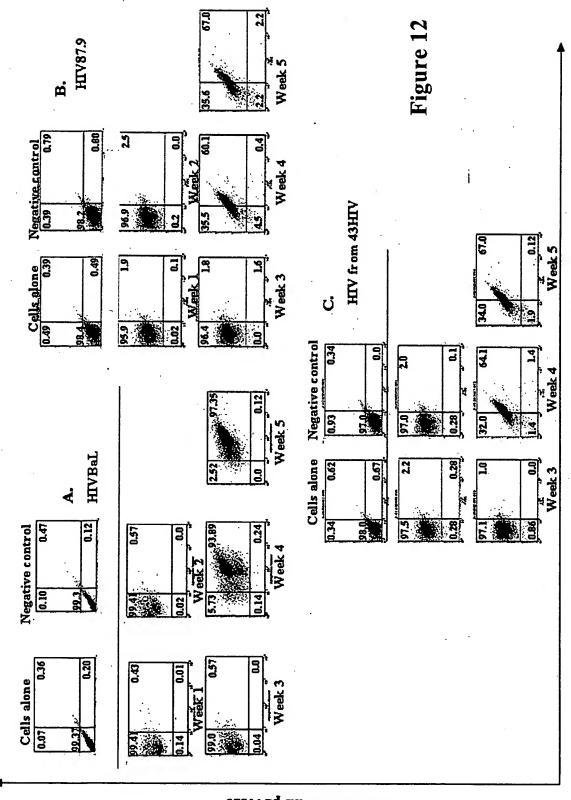


Figure 11A to Figure 11D





FITC-labeled Anti-SHIVA Abs

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Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

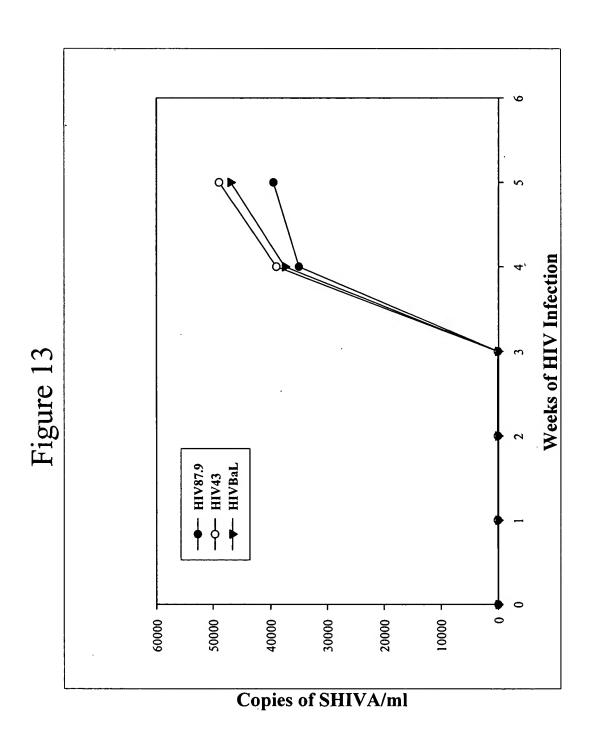
Sheet 19 of 38 (Figure 12)

Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

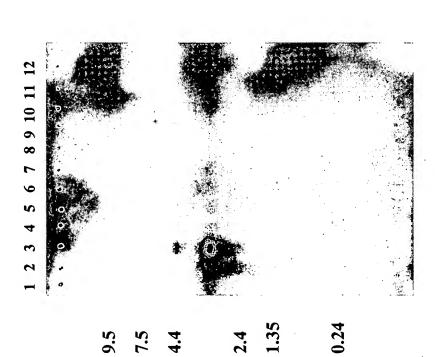
Docket No. 29636/38748A

Sheet 20 of 38 (Figure 13)



Sheet 21 of 38 (Figure 14)

Figure 14



2 = lymph node1 = Brain

3 = thymus4 = colon

5 = spleen

6 = kidney

7 = liver

8 = small intestine

9 = placenta 10 = heart 11 = skeletal muscle

12 = PBMC

Inventors: Sperber et al.

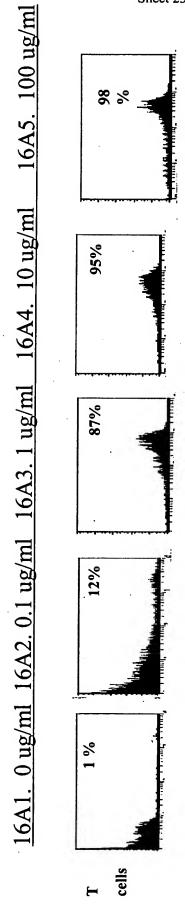
Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 22 of 38 (Figure 15)

Figure 15
46 kDa

Figure 16 A1 through 16A5



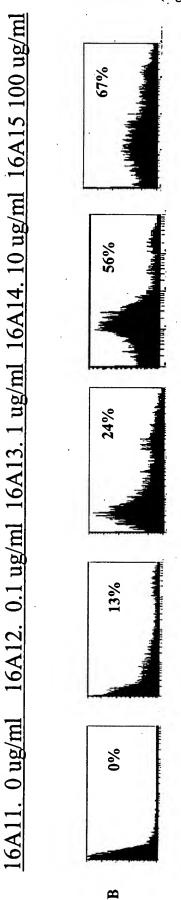
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Figure 16 A6 to 16A10

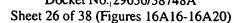
16A6. 0 ug/ml 16A7. 0.1 ug/ml 16A8. 1 ug/ml 16A9. 10 ug/ml 16A10100 ug/ml %9/ %99 37% 14% %0 T cells

Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

Figure 16 A11 to 16A15



Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 10<sup>0</sup> to 10<sup>4</sup>



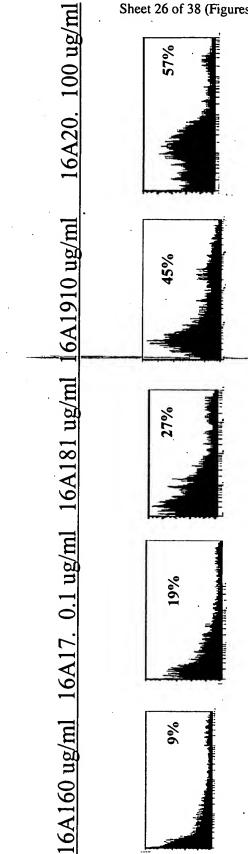


Figure 16 A16 to 16A20

Y axis scale: Counts 0 to 50 X axis scale: Annexin V FITC 100 to 104

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A Y axis scale: Counts 0 to 50 X axis scale: Amexin V FITC 100 to 104 Sheet 27 of 38 (Figure 16B) 32% 91% Neurons **IMR** %0 %0 Figure 16B 34% 36% Neurons S0 10 SH-SY5Y %0 %0 %0 DE OF OE OF OL ים צה מב חד מו

Inventors: Sperber et al.

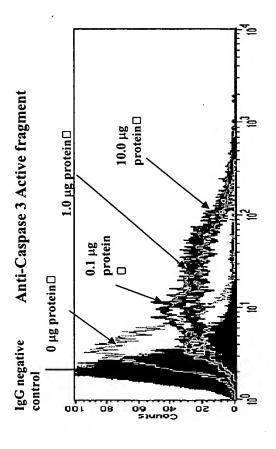
Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 28 of 38 (Figure 17A)

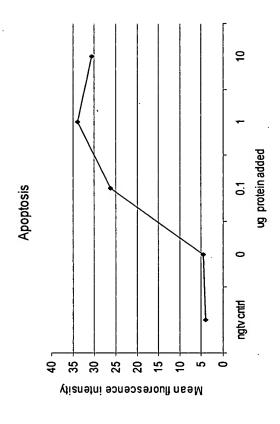




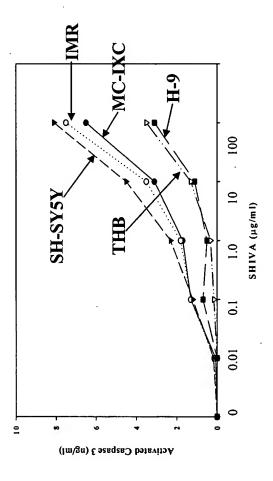
Inventors: Sperber et al.
Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

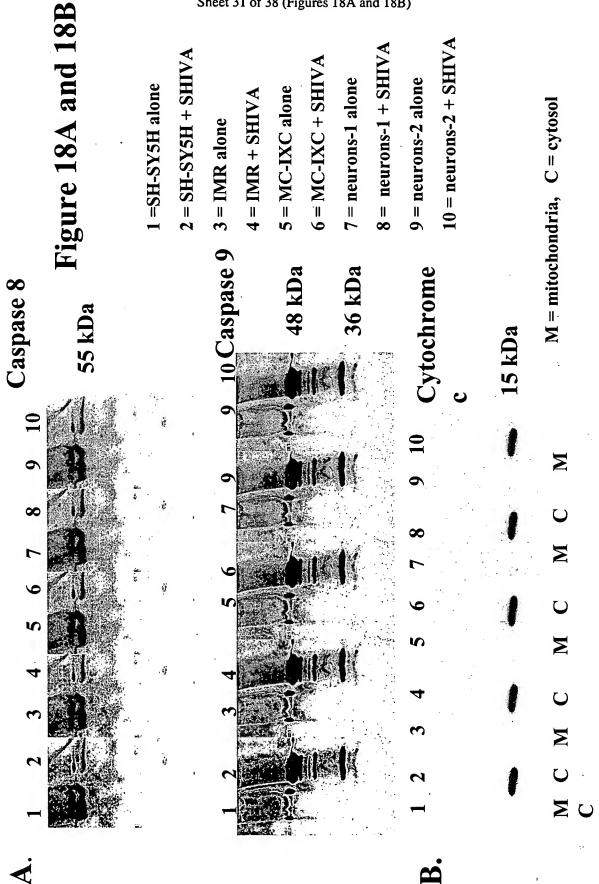
Docket No. 29636/38748A Sheet 29 of 38 (Figure 17B)



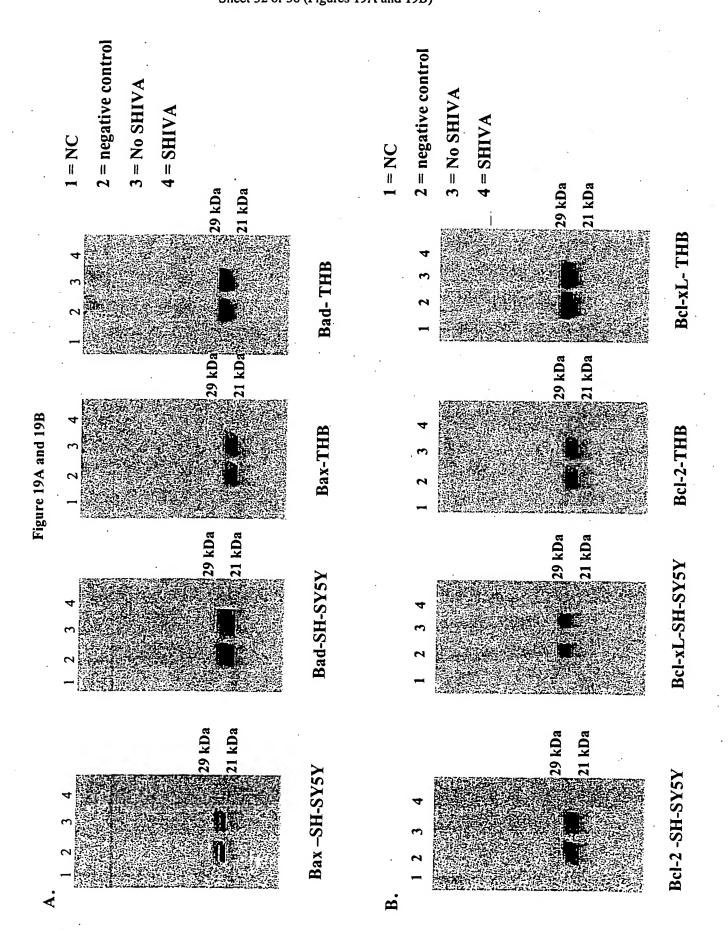


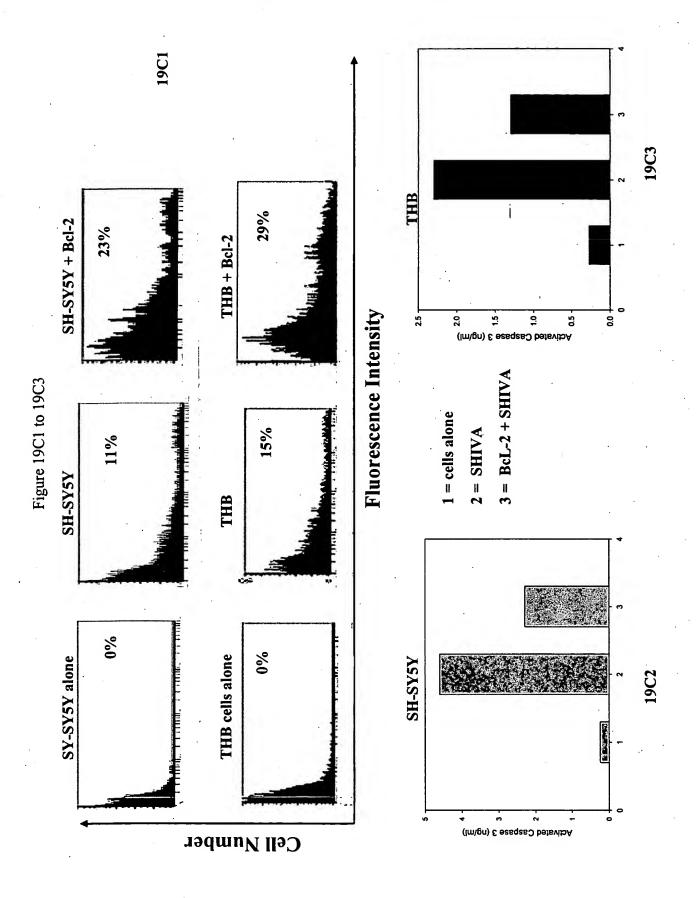






## Inventors: Sperber et al. Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells Docket No. 29636/38748A Sheet 32 of 38 (Figures 19A and 19B)

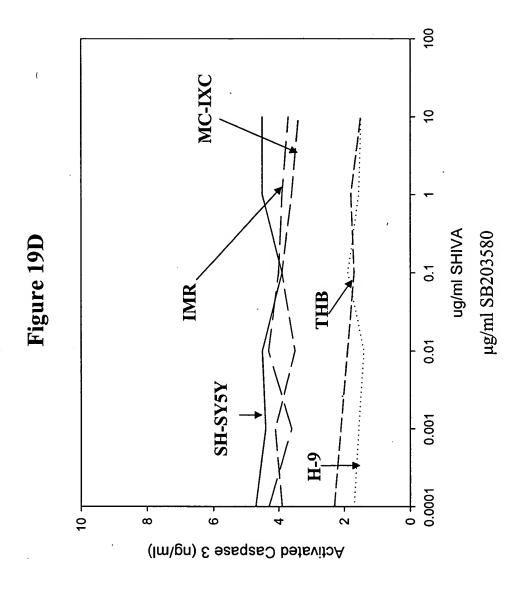




Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A Sheet 34 of 38 (Figure 19D)



Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 35 of 38 (Figure 20A)

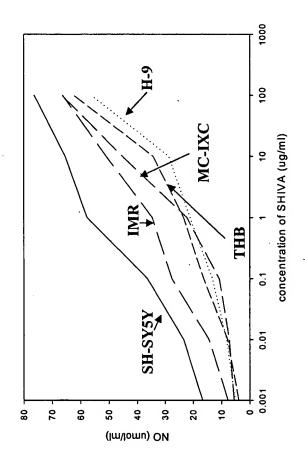


Figure 20B. Intracellular Glutathione Production

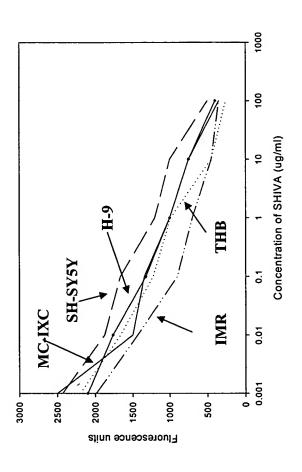
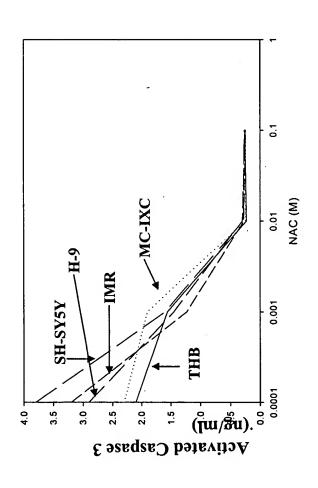


Figure 20C. NAC inhibits SHIVA induced apoptosis



Inventors: Sperber et al.

Title: Induction of Apoptosis by HIV-1 Infected Monocytic Cells

Docket No. 29636/38748A

Sheet 38 of 38 (Figure 21)

